The 42-12 is a ‘State of the Art’ Scaler. The unique Titanium Scaler tips, high operating frequency (42,000Hz), with their circular tip movement, (with a very small amplitude 0.01 – 0.02mm), produces a truly unique instrument. It not only scales in half the time of conventional “Jack Hammer” scalers, but also produces less enamel damage due to its circular tip movement. It can also scale sub-gingival pockets safely to a depth of 12mm – hence the name 42-12.
42-12 Scaler Unit Components

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9A (see page 8) 
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18.  

(see page 8)
Components of the iM3 42-12 Scaler Unit:

1) Control Center
2) Power adjustment contact
3) Handpiece tubing with connector #O6950
4) Handpiece AUS #O6900 US #O1002
5) Control On/Off switch ring
6) Tip Insert- see p8
7) Ferrite Rod (Stack) AUS #O6860 US #O1291
8) Rod Pliers AUS #O6882 US #O1295
9) Steel Pin AUS #O6880 US #O1293
9a) Ferrite Rod Holder AUS #O6865 US #O1292
10) Corian Handpiece Holder AUS #O6925 US #O8000
11) Coolant flow control needle valve #I6780 US #P7056
12) Coolant supply tube (water or CLS), maximum 3 bar #O6930
13) Power Cord 110/240V AUS #06910 US #O2197
14) Power Cord Socket, power consumption 20 watts
15) Fuse Holder with spare fuse – Fuse Slow Blow 400mA 250V #O6891
16) On/Off Mains Power Switch
17) Power setting display Lights
18) Coolant Filter #W0530 US #P7235

The iM3 42-12 comes with 2 tip inserts.

1. A Universal Tip approximately 12mm (1/2”) long and US #O0809
2. A Perio Tip 18mm (3/4”) long. See p8 for tips US #O0806

Each unit is supplied with all of the above

Optional extra:

A Beaver Tail (Standard Straight) is available for gross debridement US #O0805
A. GETTING STARTED

Control Box:
1. Insert the power cord into the rear of your unit (14). The unit automatically adjusts to either 110V or 240V AC.
2. Connect the coolant supply tube to your coolant supply – Pressure should not exceed 3 BAR (40 psi). A pump up pressure tank is also available.

B. HANDPIECE AND TIP INSERT

1. Connect the handpiece tubing (3) with the rear of the handpiece (4)
2. Insert an instrument tip (6) into the handpiece with a twisting motion until fully seated.

C. CORIAN HANDPIECE HOLDER

1. This holder is designed to reduce Stack (7) breakage by preventing the Handpiece accidentally falling on the floor this usually occurs when the Handpiece is placed on the table while adjusting the animal’s head. Position the Corian Handpiece Holder right at the animals head, and make a habit of every time you put the Handpiece down, place it in the holder. It will help reduce accidental stack breakage.

D. POWER SETTINGS

1. The Actual power setting (17) can be seen through the Top of the Control Box. One light indicates lowest power and five lights indicate maximum power. A touch on the power adjusting spot (2) will alter the power setting. One light (minimum power) is approximately 25% of maximum power. Normal scaling is 2 or 3 lights illuminated.

E. OPERATION
1. The 42-12 is turned on or off at the rear of the Control Box (16). When ‘On’, the switch will be illuminated red. The Power lights will also be illuminated.

2. The Handpiece tip is activated by sliding the silver control ring (5) to the ‘ON’ position (away from the instrument tip), causing the tip to vibrate and the coolant to flow. Make sure the adjusting knob on the coolant valve (11) is turned anti-clockwise to allow the coolant to flow.

3. Tip Vibration – Power setting (Amplitude). Touching the power adjusting spot on the top of the Control Box (2) will alter the amplitude (Power setting). Power adjustments should only be made with the handpiece control ring in the ‘OFF’ position.

4. Scaling in General. The unique circular movement of the 42-12 tip provides a gentle, but highly efficient means of scaling a tooth. The circular motion with the high frequency and small amplitude, produces a very smooth result without hammering or scratching the tooth.
F. OPERATING TECHNIQUE

It is important to use the 42-12 correctly to benefit from its unique features.

1. Always use the tip parallel to the tooth, with the side of the tip on the tooth.

2. Do not use the tip as a pick or chisel at right angles to the tooth, as this will scratch the enamel. Animal enamel is considerably thinner than human tooth enamel, and therefore more prone to damage.

3. Apply lightly to the tooth surface, sweeping back and forth as though one was painting the teeth with a paintbrush. Keep the tip moving. Use the tip to probe deep pockets, but always parallel to the tooth surface.

4. As the tip operates in a 360º circular motion, easy access is guaranteed, as all surfaces are active and there are no dead zones.

5. The circular motion actually brushes the teeth, rather than “hammering” them, and produces more of a polishing effect, rather than a scratching effect, as with other units.

NOTE: Increased pressure will not improve efficiency or the time taken to complete the procedure.

6. Coolant flow control (11). Adjust the spray to achieve a fine mist. The use of CLS is recommended in animals. Correct dilution is important (Read Manufacturer’s Recommendations) as over dilution may cause the chlorhexadine to deposit small crystals.

NOTE: The use of any other solution other than CLS or distilled water in the 42-12 will void all warranties. CLS has been used successfully in air driven Dental Units and ultrasonic scalers since 1993.
   a. Hold the scaler tip by the metal collar, and twist out of the handpiece. A twisting motion is recommended as the best way of removing and inserting scaler tip inserts through the internal handpiece sealing O ring.
   b. Shake the Handpiece to remove coolant liquid.
   c. Insert new scaler tip insert with a twisting motion until fully seated.

   **CAUTION:** Avoid contact with temporary restorations, or porcelain crowns. Avoid contact with the tongue or mucosa with the un-cooled part of the tip.

8. Life expectancy of the scaler Tip. As the tip wears, due to use, the efficiency will be reduced. If performance is reduced, check that the Ferrite Rod (7) is tight and that no foreign matter is in the handpiece. A loose ferrite rod is the most common cause of poor tip efficiency. Change the ferrite rod to see if an improvement can be gained – If no improvement is found, a new tip is indicated. Tip wear can be reduced by the use of CLS, as it contains glycerin, which will help lubricate the tip and reduce tip wear.

Instrument tips that are bent, or scratched should be discarded immediately.

Do not think the “jack hammer” of other scalers improves efficiency. The 42-12 operates by using ultrasonic frequency, along with mechanical movement to remove and breakdown calculi. The Ultrasonic sound will also destroy the cell wall of bacteria within a 1 to 2mm proximity, promoting improved dental mouth hygiene in your patients, particularly in deep sub-gingival pockets. The use of CLS with its chlorhexadine will further improve the disinfecting of such gingival pockets.
G. **HANDLING & CARE**

1. The scaler tip inserts – The shape of the tip is vital to the efficiency of the circular motion and ultrasonic effect. **DO NOT SHARPEN, BEND OR RE-SHAPE THE TIP.**

**Ferrite Rod Changing Instructions**

- Grip collar of tip with yellow clamp wrench
- Slide steel pin through hole in rod
- Slide blue rod tool over broken rod, steel pin engages with slot in top of tool. Grip yellow clamp wrench and twist blue rod tool counter-clockwise to loosen ferrite rod
- Use tools to tighten new rod firmly onto tip
- Unscrew and remove ferrite rod
- Screw new ferrite rod onto instrument tip
H. INSTRUMENT TIPS

1. Universal Tip AUS #O6840 US #O0809 (supplied with 42-12)

   ![Universal Tip Image]

   For removal of Supra and Sub-gingival calculi in all areas. For general scaling with moderate calculi.

2. Perio Tip. AUS #O6850 US #O0806 (supplied with 42-12)

   ![Perio Tip Image]

   Removes Supra and sub-gingival calculi in all areas. Particularly useful in sub-gingival pockets, as deep as 13mm. The use of CLS will reduce the pathogens and pocket depth. Use the tip in a similar fashion to a periodontal probe, and keep the tip moving with short strokes at all times.

Other Shaped tips available, please contact iM3.
## I. TROUBLE SHOOTING

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Cause</th>
<th>Remedy</th>
<th>Part Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Coolant leaking between handpiece and connectors</td>
<td>Defective O ring in Handpiece connector</td>
<td>Replace O Ring</td>
<td>O6890 (US O4231)</td>
</tr>
<tr>
<td>2 Coolant leak between H'piece and scaler tip insert</td>
<td>Defective O ring in Handpiece</td>
<td>Replace O Ring</td>
<td>O6890 (US O4232)</td>
</tr>
<tr>
<td>3 Coolant in interior of Handpiece</td>
<td>Defective O Ring in Handpiece</td>
<td>Replace O Ring</td>
<td>O6890 (US O4233)</td>
</tr>
<tr>
<td>4 Scaler tip vibrating, but no coolant spray</td>
<td>Coolant line blocked. Flow control valve closed</td>
<td>Check Filter – Open flow control valve</td>
<td>W0530 (US P7235) I6780 (US P7056)</td>
</tr>
<tr>
<td>5 Poor or no tip vibration</td>
<td>Water in Handpiece</td>
<td>Empty Handpiece – if re-occurs, replace Handpiece. Tighten Ferrite Rod Replace Ferrite Rod Replace tip</td>
<td>O6900 (US O1002) See Pg 7 O6870 (US O1200) See Pg 8</td>
</tr>
<tr>
<td>6 No Power</td>
<td>Blown fuse</td>
<td>Replace Fuse Slow Blow 400mA – 250 v</td>
<td>O6891 (US O2153)</td>
</tr>
</tbody>
</table>

## J. CLEANING & STERILISING

1. Scaler tip insert (6), can be cleaned by chemical or steam autoclaving. Maximum 180º C/ 350ºF.

2. Handpiece (4). **DO NOT Soak the Handpiece in liquid.** Clean by wiping with alcohol, soap or water based disinfectant solutions.

**DO NOT USE GLUTARALDEHYDE, FORMALIN SOLUTIONS** or any products containing aggressive chemicals. Do not put in ultrasonic cleaners, or soak in liquid chemicals.

Steam sterilise the Handpiece at a maximum temperature of 121ºC / 250ºF (Rubber Pack Cycle). iM3 recommends autoclaving between patients.

3. Control Box & Cord (1) and (3)

Wipe with alcohol, soap or water based disinfectant solution. Solutions suitable for sanitising telephones are generally satisfactory.
K. SERVICE & REPAIR

Do not attempt to open the control box (1). Service and repair can only be carried out by an approved iM3 Dealer.

The equipment must be used strictly in accordance with the Manufacturer’s Guidelines. Any alteration or repair carried out without the authority of iM3 will void all warranties.

Contact your authorised dealer or:

Service Centres
iM3 Inc
12119 NE 99th Street
Suite 2060
VANCOUVER WA U.S.A. 98682
Telephone: (360) 254 2981  Facsimile: (360) 254 2940

iM3 Pty Limited
9/31-33 Chaplin Drive
LANE COVE NSW Australia 2066
Telephone: (61) 2 9420 5766  Facsimile: (61) 2 9420 5677

L. TECHNICAL DATA

Product Name: iM3 42-12 Veterinary Dental Scaler

Mains Connection:
Type: Single phase with protective grounding.
Mains voltage: 100 to 240 Vac (at option)
Mains frequency: 50/60 Hz
Primary Fuses: 400 mA 250 V slow blow

Classification: Class 1, type B (IEC 601-1)

Max. power consumption: 20W (20VA)

Water supply pressure: 1 to 3 bar (15-42 PSI)

Manufacturer: iM3 Pty Ltd
9/31-33 Chaplin Drive
Lane Cove NSW 2066
Sydney, Australia
Telephone: 61 - 2 9420 5766
Facsimile: 61 - 2 9420 5677
Exclusively for:

iM3 Inc.
12119 NE 99th Street
Suite 2060
Vancouver, WA 98682
U.S.A.
Telephone: (360) 254-2981
Facsimile: (360) 254-2940

iM3 Pty Ltd (Australia).
9/31-33 Chaplin Drive
Lane Cove N.S.W. 2066
Sydney, Australia
Telephone: (61-2) 9420 5766
Facsimile: (61-2) 9420 5677

M. WARRANTY

Twelve (12) months replacement of parts that are found to be defective. This
does not include broken stacks (inserts), or broken handpiece tips.
Freight to and from Repair Centre will be the Owner’s responsibility.

The iM3 42-12 has been specifically created and designed by Philip Bloom of
iM3 Australia, exclusively for Veterinary Dental use. No other ultrasonic dental
scaler meets the specific needs of the Veterinary Dental Professional as does
the 42-12.

Graphics, industrial design and Engineering Drawings were produced by iM3
Australia.

iM3 the company meeting the Veterinary Professionals Dental needs. The
only company that designs, manufactures, sells and services its own
equipment, that’s how we maintain our reputation for quality, reliability and
customer satisfaction, and we’re proud of that so we work hard to maintain
that reputation. Thank you

Manufactured By
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